NORTH DAKOTA
DEPARTMENT of HEALTH

Health Alert Network

JANUARY 9, 2015 # HEALTH ADVISORY

State Health Department Reminds Providers to Consider Vaccine-Preventable Diseases as a Possible Diagnosis

Vaccine-preventable diseases continue to circulate in the United States and North Dakota. Physicians should be familiar with vaccine-preventable diseases and their appropriate diagnostic and treatment procedures, as well as isolation recommendations. North Dakota has recently experienced an increase in pertussis cases. Additionally, bordering states such as South Dakota and Minnesota have recently reported cases of measles and mumps.

Pertussis

Pertussis (known as whooping cough) is a contagious disease that lasts for many weeks or months and can cause severe coughing with a "whooping" sound or coughing that leads to vomiting. The disease can be life threatening for infants and is usually spread by adults to infants. Generally, the illness is less severe in those who are vaccinated and may present as just a prolonged cough. Individuals with pertussis are contagious for 21 days after cough onset.

The North Dakota Department of Health (NDDoH) recommends providers consider testing for pertussis when evaluating any patient with an unexplained, prolonged cough illness (longer than 14 days) characterized by one or more of the following symptoms:

- Paroxysms
- Whoop
- Post-tussive gagging/vomiting
- Apnea

In 2014, 53 cases of pertussis were reported in North Dakota. Nineteen cases of pertussis occurred in the last two months of the year alone, indicating an upswing in incidence.

Testing

A nasopharyngeal swab or aspirate should be obtained to test for pertussis. Pertussis testing kits are available at most major medical centers and from the Division of Laboratory Services at the NDDoH (701.328.6272). The fee for pertussis testing through the NDDoH is $51. Serology testing should not be used to confirm a pertussis diagnosis. Standardized serology tests are not available, making the results of commercially-available serology tests difficult to interpret. Positive serology results from a private laboratory are not confirmatory. Patients meeting the clinical case definition that are serologically positive, but not culture or PCR positive are not considered laboratory confirmed cases and should be reported as clinically diagnosed, probable pertussis cases.

Treatment:

The NDDoH recommends that people presenting with pertussis symptoms be considered presumptive pertussis cases and be treated and excluded from community activities, including school, child care or work, until five days of appropriate antibiotics have been completed. Do not wait for laboratory testing results to treat. Only the antibiotics listed on the Pertussis Treatment and Chemoprophylaxis Guidelines are effective in treating pertussis: www.ndhealth.gov/Immunize/Documents/Disease/Pertussis_Tx.pdf.

Vaccination

Diphtheria, tetanus and acellular pertussis vaccine (DTaP) should be administered routinely to infants at 2, 4, 6 and 15 to 18 months of age. A booster dose of DTaP should be given at 4 to 6 years of age. DTaP vaccine should not be given to children seven years of age and older; however, Tdap vaccine can be used to catch-up under-immunized children seven years and older.

Tdap vaccine should be routinely administered to adolescents at 11 to 12 years of age. Adults who have never received a dose of Tdap should also receive a one-time dose. Pregnant women are recommended to receive a dose of Tdap during each pregnancy.

Measles

Measles is an acute disease characterized by fever, cough, coryza, conjunctivitis and a maculopapular rash lasting more than three days. Measles transmission is primarily person to person via large respiratory droplets, but airborne transmission can occur. Respiratory droplets can remain infectious for approximately two hours in the environment. Individuals with measles are infectious four days before rash onset until four days after rash onset.

Providers should consider a diagnosis of measles if a patient has a rash-like illness, is unvaccinated, and has recently traveled internationally or to areas with ongoing measles outbreaks. International travel or contact with individuals who have recently traveled abroad should be taken into account when considering a diagnosis of measles. When a health care provider is testing for measles infection, patients also should be tested for rubella infection, because the two diseases can present with similar symptoms.

In 2014, 610 cases of measles were reported in the United States. The majority of cases were unvaccinated. South Dakota is currently experiencing an outbreak of measles in Davison County. Twelve cases of measles have been identified since December 30, 2014, when the outbreak was first reported.

Testing

Serological testing and virus isolation for measles is available from the NDDoH Division of Laboratory Services. The NDDoH recommends that providers collect specimens for both serology and PCR testing if measles is suspected. IgM acute serum testing should be sent to the laboratory at onset of symptoms, along with a completed laboratory slip indicating vaccination history. Specimens can be sent to the NDDoH laboratory for PCR testing. A clinical specimen should be collected from suspected cases; appropriate specimens include throat, nasal or nasopharyngeal swabs. Urine specimens may also contain virus and can be collected in conjunction with throat, nasal or nasopharyngeal specimens.

Treatment and Prevention

Susceptible individuals with a known or highly probable exposure, depending on timing and age, can be treated with MMR vaccine or IG to prevent or modify measles. MMR vaccine, if administered within 72 hours of initial measles exposure, may provide some protection. IG is indicated for susceptible household contacts of measles patients, particularly those for whom the risk of complications is increased and who cannot receive MMR vaccine (i.e., infants age 12 months or younger, pregnant women, or immunocompromised people). Vaccination should be offered at any interval following exposure in order to offer protection from future exposures. If administered within six days of exposure, IG can prevent or modify measles in a susceptible person. If IG is administered, healthcare providers should delay MMR vaccination for five months. IG should not be administered within two weeks of prior MMR vaccination.

To prevent transmission of measles in health care settings, stringent airborne infection control precautions should be followed. Suspected measles patients (i.e., people with febrile rash illness) should be removed from emergency departments and clinic waiting areas as soon as they are identified, placed in a private room with the door closed, and asked to wear a surgical mask if tolerated. In hospital settings, patients with suspected measles should be placed immediately in a negative pressure isolation room if one is available and, if possible, should not be sent to other parts of the hospital for examination or testing purposes.

Vaccination

Two doses of measles, mumps and rubella vaccine, as a combination MMR or MMRV, separated by at least four weeks, are routinely recommended for all children 12 months of age and older. MMR is routinely administered at 12 – 15 months of age and 4 – 6 years of age. Children are required to be age appropriately vaccinated with MMR for entry into childcare, kindergarten through twelfth grade, and college in North Dakota. Studies indicate that 99 percent of people who receive two doses of MMR are immune to measles. All adults born in 1957 and after should have documentation of at least one dose of MMR or other evidence of measles immunity. Birth before 1957 is generally considered acceptable evidence of immunity to measles for the general public.

Health care personnel born in 1957 or later can be considered immune to measles, mumps, and rubella only if they have documentation of laboratory confirmation of disease or immunity or appropriate vaccination against measles, mumps, and rubella. Health care facilities should consider recommending two doses of MMR vaccine routinely to unvaccinated health care personnel born before 1957 who do not have evidence of disease or immunity to measles and/or mumps. They should also consider one dose of MMR for health care personnel with no laboratory evidence of disease or immunity to rubella. Additionally, these individuals are recommended to receive two doses of MMR vaccine during an outbreak of measles and mumps and one dose during an outbreak of rubella.

International Travel

Health care providers should encourage timely vaccination of everyone who plans to travel internationally who does not have evidence of measles immunity. Infants ages six through 11 months should receive one dose of MMR vaccine. Two doses of MMR are recommended for travelers, ages 12 months and older, with a minimum interval of four weeks between doses.

Mumps

Mumps is a systemic disease characterized by the swelling of one or more salivary glands, usually the parotid glands. Approximately one-third of cases do not have apparent salivary gland swelling and symptoms are limited to a respiratory infection or are asymptomatic. Transmission occurs via infected respiratory secretions or saliva. Individuals with mumps are contagious two days before parotitis to five days after onset of parotitis.

According to the CDC, 1,100 cases of mumps occurred in the United States in 2014. The National Hockey League (NHL) is currently experiencing an outbreak of mumps.

Testing

Serological testing and virus isolation for mumps is available from the NDDoH Division of Laboratory Services. IgM acute serum testing and clinical specimens should be sent to the laboratory at onset of symptoms, along with a completed laboratory slip indicating vaccination history. Appropriate clinical specimens include oral or buccal swabs. Urine specimens may also contain virus and can be collected in conjunction with oral or buccal specimens. Specimens can be sent to the NDDoH laboratory for PCR testing. Serologic testing is not confirmatory and serologic specimens should always be accompanied by clinical specimens to confirm diagnosis.

Reporting

Please heighten your suspicion of these and other vaccine-preventable diseases and report any suspect cases to the NDDoH immediately**. If measles, rubella or mumps is suspected, do not wait for laboratory results to report suspected cases.** Timely reporting of suspected cases will allow the NDDoH to investigate cases and contacts and make recommendations to reduce transmission in the community. As mandated by North Dakota law, any incidence of pertussis, measles, mumps or rubella must immediately be reported to the NDDoH by phone at 701.328.2378 or toll free at 800.472.2180 or by confidential fax at 701.328.0355.

Please contact the NDDoH Division of Disease Control at 701.328.2378 or toll-free at 800.472.2180 with any questions or concerns regarding this issue.

Categories of Health Alert messages:

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- *Health Advisory provides important information for a specific incident or situation; may not require immediate action.*
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This message is being sent to local public health units, clinics, hospitals, physicians, tribal health, North Dakota Nurses Association, North Dakota Long Term Care Association, North Dakota Healthcare Association, North Dakota Medical Association, and hospital public information officers.